

Siemens Demonstrates the Nordic Region's First Automated Train Drive with ETCS and ATO in Finland

- **Successful demonstration of European Train Control System (ETCS) combined with Automatic Train Operation (ATO)**
- **First-ever ATO operation on an ETCS mainline in the Nordic countries**
- **A key milestone in the digitalization of Finland's rail infrastructure**

Siemens Mobility achieved a historic milestone in Finland, conducting the Nordic region's first-ever automated train operation on an ETCS-equipped mainline. The successful demonstration, held on the 19-kilometer-long route between Juurikorpi and Hamina, showcased the seamless integration of Automatic Train Operation with the European Train Control System Level 2. Using a modernized train owned by Pääkaupunkiseudun Junakalusto Oy (JKOY) and operated by VR-Yhtymä Oyj (VR), Siemens Mobility demonstrated state-of-the-art digital rail technology, delivering precise automated stops, smooth acceleration, and controlled braking. These semi-automatic (GoA2) test runs underscored the stability, repeatability, and innovation of the system in real-world mainline conditions, marking a significant step forward in the digitalization of Finland's rail infrastructure. By maximizing the use of existing infrastructure, the ATO system based on ETCS enhances the capacity, efficiency and punctuality of mainline traffic, offering clear benefits for rail operations.

"Introducing ATO over ETCS to Finland – and for the first time to the Nordic countries – is a major milestone in modernizing the railway system," says **Marc Ludwig, CEO Rail Infrastructure at Siemens Mobility**. "This demonstration marks a significant step toward more efficient and sustainable rail transport in Finland. We are proud to drive this transformation alongside the Digirail programme. With our

technology, our customers can increase capacity by 30%, significantly improve punctuality, and save over 30% energy.”

“Train automation combined with modern safety systems increases capacity, enhances safety, and brings greater predictability to rail operations. The testing phase marks a significant step toward automated rail transport and stands as a concrete result of years of close collaboration,” says **Director Esa Sirkiä**, who is responsible for Digirail programme in **Finnish Transport Infrastructure Agency**.

“Today’s test runs clearly demonstrate what can be achieved when railway stakeholders work closely together towards a shared goal. Train automation enables safer, more punctual and more energy-efficient operations, while also allowing the rail network to be used more efficiently. Finland has strong expertise in developing rail traffic, and initiatives like this move the entire sector steadily forward towards the future of rail traffic,” says **Sanna Järvenpää, CEO of Fintraffic Railway Ltd**.

In these runs, Siemens Mobility showcased how the train performed an automated stop from 100 km/h with a precision of 30 to 80 centimeters, while also demonstrating smooth acceleration and controlled braking under ATO supervision. The test highlighted the seamless interaction between the European Train Control System (ETCS) Level 2 and onboard automation, ensuring stable, repeatable, and efficient operations in real-world mainline conditions.

ETCS is a standardized signaling and control system that enhances rail safety by continuously supervising train speed and movement authority. It replaces fragmented national systems with a common European standard. Building on this, ATO complements ETCS by automating key operational tasks like acceleration, coasting, braking, and stopping, further optimizing punctuality, traffic flow, and energy consumption.

Digitalizing Finland's Rail System

In 2024, Siemens Mobility secured two contracts supporting Finland’s forward-thinking Digirail initiative to modernize its railway infrastructure. As part of this effort, Siemens is equipping, for test purposes, two trains with onboard unit technology, enabling seamless communication between trains and rail infrastructure. This

advanced train control system will increase network capacity, enhance safety, and reduce operational disruptions.

Moreover, Siemens Mobility is modernizing the first commercial section (EKA) of the Tampere–Pori/Rauma line using Signaling X, a cloud-ready, virtualized platform that leverages commercial off-the-shelf (COTS) hardware. This innovative solution simplifies infrastructure, ensures efficient operations, and sets a new standard for digital rail systems. The first segment is scheduled to be operational by 2029, marking a major milestone for safer and more sustainable rail transportation in Finland.

Led by Finland's Ministry of Transport, Digirail will implement ETCS nationwide, replacing aging systems to deliver safer, more efficient, and sustainable rail operations. Siemens Mobility is a vital partner in shaping this transformative project.

For further information about the project, please see

[Finland's Digital Rail Revolution: ETCS Level 2 - Siemens Mobility Global](#)

This press release as well as press pictures / further material are available at

<https://sie.ag/4w5ZVH>

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